

### REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 13-26 are pending. Claims 13-24 are amended and Claims 25 and 26 are added by the present amendment. The changes to Claim 13 and new Claims 25 and 26 are supported in the originally filed disclosure at least at Figure 2 and the associated descriptions and the changes to Claims 14-24 are only for consistency with amended independent Claim 13. Thus, no new matter is added.

In the outstanding Office Action, Claims 13-24 were rejected under 35 U.S.C. § 103(a) as unpatentable over Cromer, et al. (U.S. Pub. No. 2002/0159611 A1, herein “Cromer”) in view of Freeman, et al. (U.S. Patent No. 6,970,568 B1, herein “Freeman”), further in view of Cohen, et al. (U.S. Pub. No. 2003/0031333 A1, herein “Cohen”).

Applicants respectfully traverse the rejection of Claims 13-24 under 35 U.S.C. § 103(a).

Amended Claim 13 recites, *inter alia*, “means for tracking positions of the personal devices to produce a current position of each personal device” and “means for re-calibrating a sound field to position a sweet spot of the sound field based on the current positions of the personal devices.”

Cromer describes a multi-dimension sound system (10) including an audio receiver (18), a plurality of speakers (20a-20e), and a remote control (16).<sup>1</sup> Cromer further describes a program (26) executing upon the receiver (18) that collects pulse counts from the speakers (20a-20e) and computes distances between the speakers (20a-20e) and the remote control (16), to program a digital audio encoding system with delay times.<sup>2</sup>

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<sup>1</sup> Cromer at paragraphs [0011] and [0012], and at Figure 1.

<sup>2</sup> Cromer at paragraph [0013].

However, Cromer does not describe any means for tracking positions of personal devices to produce a current position of each personal device. Instead, Cromer merely describes that the program (26) computes distances between each of the speakers (20a-20e) and the remote control (16), without describing any means for tracking a position of the remote control (16) *or positions of remote controls*.<sup>3</sup> Specifically, even if the remote control (16) of Cromer were asserted as a “personal device,” as recited by amended Claim 13, Cromer does not describe that the multi-dimensional sound system (10) includes more than one remote control (16) or *tracks positions of remote controls*. Therefore, Cromer does not describe any “means for tracking positions of the personal devices to produce a current position of each personal device,” as recited by amended Claim 13.

Further, Cromer does not describe any means for re-calibrating a sound field to position a sweet spot based on current positions of personal devices. Instead, Cromer merely describes that the program (26) determines encoding delay times based on computed distances between each of the speakers (20a-20e) and the remote control (16), without determining encoding delay times based on current *positions of remote controls*.<sup>4</sup> Specifically, even if the program (26) determines encoding delay times based on a computed distance between each of the speakers (20a-20e) and the remote control (16), Cromer does not describe that the multi-dimensional sound system (10) re-calibrates a sound field based on current positions of *more than one remote control*. Therefore, Cromer does not describe any “means for re-calibrating a sound field to position a sweet spot of the sound field based on the current positions of the personal devices,” as recited by amended Claim 13, and Freeman and Cohen fail to cure these deficiencies.

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<sup>3</sup> Cromer at paragraph [0013].

<sup>4</sup> Cromer at paragraph [0013].

Freeman generally describes a system for accurately measuring a time of flight of an audio signal generated in response to a stimulus signal.<sup>5</sup> Freeman further describes that, in order to correct a loud speaker stimulus signal time delay, “it is necessary to determine the relative position of the multiple loud speakers.”<sup>6</sup> To that end, Freeman describes determining relative time delays among multiple loud speakers by physically measuring a distance from each of the loud speakers to a point located in a listening area.<sup>7</sup>

However, Freeman does not describe tracking positions of personal devices or re-calibrating a sound field based on current positions of the personal devices. Instead, Freeman merely describes determining relative positions of multiple loud speakers to correct a time delay of a stimulus signal.<sup>8</sup> Therefore, Freeman does not teach or suggest any “means for tracking positions of the personal devices to produce a current position of each personal device” or “means for re-calibrating a sound field to position a sweet spot of the sound field based on the current positions of the personal devices,” as recited by amended Claim 13.

Cohen describes a system for optimizing three-dimensional audio, comprising speakers (12-16), a processor (35), and a remote position sensor (27).<sup>9</sup> According to Cohen, the system provides “pings” from individual ones of the speakers (12-16) which are measured at multiple receivers (Rx1-Rx4) of the remote position sensor (27), to shift a position of a sweet spot.<sup>10</sup>

However, Cohen does not describe tracking positions of personal devices or re-calibrating a sound field based on current positions of the personal devices. Instead, Cohen merely describes measuring “pings” at the remote position sensor (27), without describing any means for tracking a position of the remote position sensor (27) or *positions of remote*

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<sup>5</sup> Freeman at Abstract.

<sup>6</sup> Freeman at column 1, line 65, to column 2, line 5.

<sup>7</sup> Freeman at column 2, lines 5-10.

<sup>8</sup> Freeman at column 1, line 65, to column 2, line 5.

<sup>9</sup> Cohen at paragraph [0056] and at Figure 11.

<sup>10</sup> Cohen at paragraphs [0046] and [0051], and at Figures 9a, 9b, and 13.

*position sensors*.<sup>11</sup> Specifically, even if the remote position sensor (27) of Cohen were asserted as a “personal device,” as recited by amended Claim 13, Cohen does not describe more than one remote position sensor (27) or *tracking positions of remote position sensors*. Further, Cohen merely describes shifting the sweet spot based on “pings” measured at the remote position sensor (27), but not shifting the sweet spot *based on current positions of remote position sensors*.<sup>12</sup> Therefore, Cohen does not teach or suggest any “means for tracking positions of the personal devices to produce a current position of each personal device” or “means for re-calibrating a sound field to position a sweet spot of the sound field based on the current positions of the personal devices,” as recited by amended Claim 13.

Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) of Claim 13 and Claims 14-24, which depend therefrom, be withdrawn.

New Claim 25 depends from Claim 13. Therefore, Claim 25 patentably defines over Cromer, Freeman, and Cohen for at least the same reasons as Claim 1 and is believed to be in condition for allowance. Further, Claim 26, although differing in scope from Claim 13, patentably defines over Cromer, Freeman, and Cohen for reasons similar to those described above with regard to Claim 1 and is believed to be in condition for allowance.

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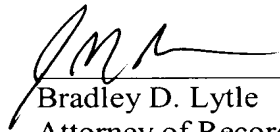
<sup>11</sup> Id.

<sup>12</sup> Id.

Accordingly, the outstanding rejection is traversed and the pending claims are believed to be in condition for formal allowance. An early and favorable action to that effect is, therefore, respectfully requested.

Respectfully submitted,

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